IN THE CLAIMS:

Claim 1-17 remain as follows:

1.(Original) A vehicle navigation system that receives sensor data from a plurality of sensors, and provides a map image that is presented on a display, said system comprising:

a navigation map data memory that includes map data indicative of roadways stored in Cornu spiral form; and

a navigation processing unit that receives the sensor data, and requests map data from said navigation map data memory associated with the sensor data, and computes the map image from said map data.

2.(Original) The vehicle navigation system of claim 1, wherein said map data includes a data indicative of a unit Cornu spiral.

3.(Original) The vehicle navigation system of claim 2, wherein said navigation processing unit computes said map image using Cornu spiral polynomial coefficients stored in said navigation map data memory.

4.(Original) The vehicle navigation system of claim 2, wherein terms of polynomials of the unit Cornu spiral are stored in said navigation map data memory and said map image is computed using said terms of polynomials of the unit Cornu spiral.

5.(Original) The vehicle navigation system of claim 4, wherein said terms of polynomials are associated with Taylor series expressions indicative of said Cornu spiral.

6.(Original) The vehicle navigation system of claim 5, wherein said Cornu spiral is of the form $l = Ka^2$, where l is indicative of arc length and K is indicative of curvature.

7.(Original) The vehicle navigation system of claim 5, wherein said navigation map data memory includes coordinates of the unit Cornu spiral stored in a table, from which all the Cornu spirals of the navigation map are derived.

8.(Original) The vehicle navigation system of claim 5, wherein said navigation map data memory includes coordinates of the unit Cornu spiral stored in a table, from which all the Cornu spirals of the navigation map are derived for roads, railroad lines, rivers, lakes, and similar cartographic parameters defined as Cornu spirals.

9.(Original) A vehicle navigation system that receives sensor data from a plurality of sensors, and provides a map image that is presented on a display, said system comprising:

a navigation map data memory that includes map data indicative of roadways stored in Cornu spiral form; and

means for receiving the sensor data, for requesting map data from said navigation map data memory associated with the sensor data, and for computing the map image from said map data.

10.(Original) The vehicle navigation system of claim 9, wherein said map data includes data indicative of a unit Cornu spiral.

11.(Original) The vehicle navigation system of claim 10, wherein said navigation processing unit computes said map image using Cornu spiral polynomial coefficients stored in said navigation map data memory.

12.(Original) The vehicle navigation system of claim 11, wherein terms of polynomials of the unit Cornu spiral are stored in said navigation map data memory and said map image is computed using said terms of polynomials of the unit Cornu spiral.

13.(Original) The vehicle navigation system of claim 12, wherein said terms of polynomials are associated with Taylor series expressions indicative of said Cornu spiral.

14.(Original) The vehicle navigation system of claim 13, wherein said Cornu spiral is of the form $l = Ka^2$, where l is indicative of arc length and K is indicative of curvature.

15.(Original) The vehicle navigation system of claim 13, wherein said navigation map data memory includes coordinates of the unit Cornu spiral stored in a table, from which all the Cornu spirals of the navigation map are derived.

16.(Original) The vehicle navigation system of claim 13, wherein said navigation map data memory includes coordinates of the unit Cornu spiral stored in a table, from which all the Cornu spirals of the navigation map are derived for roads, railroad lines, rivers, lakes, and similar cartographic parameters defined as Cornu spirals.

17.(Original) A method of computing a map image in a vehicle navigation system that receives sensor data from a plurality of sensors, comprising:

providing map data indicative of roadways stored in Cornu spiral form in a navigation map data memory device;

receiving the sensor data, and in response thereto requesting map data from said navigation map data memory device; and

computing the map image from said map data.